

CLAIMS

We claim:

1 1. A gas lighter comprising:
2 a reservoir having an upper wall;
3 a well, the well passing through the upper wall; and
4 a gas-dispensing device having at least one tubular element arranged in the well,
5 wherein the tubular element has at least one snap-fitting member designed to
6 cooperate with a retaining element secured to the upper wall when the tubular element is
7 assembled with the reservoir.

1 2. A lighter according to claim 1, wherein the tubular element comprises two
2 snap-fitting members for engaging the retaining element to snap-fit the tubular element in
3 the upper wall of the reservoir in the well.

1 3. A lighter according to claim 1, wherein the upper wall is formed integral
2 with the reservoir.

1 4. A lighter according to claim 1, wherein the upper wall of the reservoir, the
2 well and the tubular element are all in the shape of a cylinder that is circularly symmetrical.

1 5. A lighter according to claim 1, wherein the tubular element and the upper
2 wall of the reservoir in the well have relatively smooth walls.

1 6. A lighter according to claim 1, further comprising an annular seal arranged
2 between the wall and the tubular element.

1 7. A lighter according to claim 6, wherein the annular seal is arranged between
2 a radially external rim formed on the tubular element and a radially internal rim formed on
3 the wall.

1 8. A lighter according to claim 7, wherein the tubular element has a first axial
2 distance (H_1), extending between the radially external rim and a point of contact where the
3 snap-fitting member engages the retaining element, and the upper wall has a second axial
4 distance (H_2) between the radially internal rim and the point of contact, the first and second
5 distances (H_1, H_2) being chosen to exert a pre-determined pressure on the annular seal.

1 9. A lighter according to claim 1, wherein the retaining element is formed on a
2 lower portion of an interior face of the upper wall.

1 10. A lighter according to claim 1, wherein the snap-fitting member is arranged
2 in a lower part of the tubular element.

1 11. A lighter according to claim 10, wherein the snap-fitting member comprises
2 a tab having a nib, the nib being directed radially outwards and having a transverse face, the
3 tab being elastic in a radial direction.

1 12. A lighter according to claim 1, wherein the tubular element further
2 comprises a regulating device.

1 13. A lighter according to claim 12, wherein the regulating device is a
2 microporous membrane.

1 14. A lighter according to claim 13, wherein the tubular element further
2 comprises a metal inner tube having a lowered end for receiving the microporous
3 membrane.

1 15. A lighter according to claim 1, wherein the tubular element has an upper end
2 comprising a radially internal rim defining an opening through which there passes an outlet
3 duct of a valve, the valve being moveable along an axis of the tubular element, wherein a
4 compression spring is arranged between the radially internal rim and the valve.

1 16. A lighter according to claim 1, wherein the reservoir is formed of a material
2 selected from the group consisting of styrene acrylonitriles or acrylonitrile butadiene
3 styrenes.

1 17. A lighter according to claim 1, wherein the tubular element is made of semi-
2 crystalline polymer.

1 18. A gas lighter comprising:
2 a reservoir containing a fuel, the reservoir having an upper wall,
3 a well, the well passing through the upper wall; and
4 a gas-dispensing device having at least one tubular element including at least one
5 snap-fitting member;

6 wherein the upper wall includes a retaining element for engaging the snap-fitting
7 member.

1 19. A lighter according to claim 18, wherein the tubular element comprises two
2 snap-fitting members for engaging the retaining element to snap-fit the tubular element in
3 the upper wall of the reservoir in the well.

1 20. A lighter according to claim 18, wherein the upper wall is formed integral
2 with the reservoir.

1 21. A lighter according to claim 18, wherein the upper wall of the reservoir, the
2 well and the tubular element are all in the shape of a cylinder that is circularly symmetrical.

1 22. A lighter according to claim 18, wherein the tubular element and the upper
2 wall of the reservoir in the well have relatively smooth walls.

1 23. A lighter according to claim 18, further comprising an annular seal arranged
2 between the upper wall and the tubular element.

1 24. A lighter according to claim 23, wherein the annular seal is arranged
2 between a radially external rim formed on the tubular element and a radially internal rim
3 formed on the upper wall.

1 25. A lighter according to claim 24, wherein the tubular element has a first axial
2 distance (H_1), extending between the radially external rim and a point of contact where the
3 snap-fitting member engages the retaining element, and the wall has a second axial distance
4 (H_2) between the radially internal rim and the point of contact, the first and second distances
5 (H_1, H_2) being chosen to exert a pre-determined pressure on the annular seal.

1 26. A lighter according to claim 18, wherein the retaining element is formed on a
2 lower portion of an interior face of the upper wall.

1 27. A lighter according to claim 18, wherein the snap-fitting member is arranged
2 in a lower part of the tubular element.

1 28. A lighter according to claim 27, wherein the snap-fitting member comprises
2 a tab having a nib, the nib being directed radially outwards and having a transverse face, the
3 tab being elastic in a radial direction.

1 29. A lighter according to claim 18, wherein the tubular element further
2 comprises a regulating device.

1 30. A lighter according to claim 29, wherein the regulating device is a
2 microporous membrane.

1 31. A lighter according to claim 30, wherein the tubular element further
2 comprises a metal inner tube having a lowered end for receiving the microporous
3 membrane.

1 32. A lighter according to claim 18, wherein the tubular element has an upper
2 end comprising a radially internal rim defining an opening through which there passes an
3 outlet duct of a valve, the valve being moveable along an axis of the tubular element,
4 wherein a compression spring is arranged between the radially internal rim and the valve.

1 33. A lighter according to claim 18, wherein the reservoir is formed of a material
2 selected from the group consisting of styrene acrylonitriles or acrylonitrile butadiene
3 styrenes.

1 34. A lighter according to claim 18, wherein the tubular element is made of
2 semi-crystalline polymer.

1 35. A method of manufacturing a gas lighter having a reservoir including an
2 upper wall having a retaining element and a well which passes through the upper wall, the
3 method comprising:

4 providing a gas dispensing device within the well, the gas dispensing device
5 including at least one tubular element having at least one snap-fitting member, wherein the
6 step of providing a gas dispensing device within the well comprises:

7 placing the tubular element into the well until the snap-fitting member engages the
8 retaining element thereby securing the dispensing device into the well.

1 36. The method of claim 35, wherein the tubular element comprises two snap-
2 fitting members for engaging the retaining element.

1 37. The method of claim 35, wherein the upper wall is formed integral with the
2 reservoir.

1 38. The method of claim 35, wherein the upper wall of the reservoir, the well
2 and the tubular element are all in the shape of a cylinder that is circularly symmetrical.

1 39. The method of claim 35, wherein the tubular element and the upper wall of
2 the reservoir in the well have relatively smooth walls.

1 40. The method of claim 35, further comprising providing an annular seal
2 between the upper wall and the tubular element.

1 41. The method of claim 40, wherein the annular seal is arranged between a
2 radially external rim formed on the tubular element and a radially internal rim formed on
3 the upper wall.

1 42. The method of claim 41, wherein the tubular element has a first axial
2 distance (H_1), extending between the radially external rim and a point of contact where the
3 snap-fitting member engages the retaining element, and the wall has a second axial distance
4 (H_2) between the radially internal rim and the point of contact, the first and second distances
5 (H_1, H_2) being chosen to exert a pre-determined pressure on the annular seal.

1 43. The method of claim 35, wherein the retaining element is formed on a lower
2 portion of an interior face of the upper wall.

1 44. The method of claim 35, wherein the snap-fitting member is arranged in a
2 lower part of the tubular element.

1 45. The method of claim 44, wherein the snap-fitting member comprises a tab
2 having a nib, the nib being directed radially outwards and having a transverse face, the tab
3 being elastic in a radial direction.

1 46. The method of claim 35, wherein the tubular element further comprises a
2 regulating device.

1 47. The method of claim 46, wherein the regulating device is a microporous
2 membrane.

1 48. The method of claim 47, wherein the tubular element further comprises a
2 metal inner tube having a lowered end for receiving the microporous membrane.

1 49. The method of claim 35, wherein the tubular element has an upper end
2 comprising a radially internal rim defining an opening through which there passes an outlet
3 duct of a valve, the valve being moveable along an axis of the tubular element, wherein a
4 compression spring is arranged between the radially internal rim and the valve.

1 50. The method of claim 35, wherein the reservoir is formed of a material
2 selected from the group consisting of styrene acrylonitriles or acrylonitrile butadiene
3 styrenes.

1 51. The method of claim 35, wherein the tubular element is made of semi-
2 crystalline polymer.